

# For Christmas—and years after! S.E.L. presents worth having!



## S.E.L. MICROSCOPE No. 3A

A highly-efficient optical instrument with smooth-operating rack and pinion fractional adjustment. Magnification 100. Height  $7\frac{1}{2}$  in. Black ripple, and highly polished nickel plating. Complete with tweezers, glass slides, cover slips, and instruction book. Price 75/-. Also in fitted polished mahogany case at 95/-. Also two smaller sizes with slide action adjustment: No. 1 magnification 44—height 5 in., at 32/6 Model No. 2 magnification 70—height 6 in., at 42/6.

## MERIT CHEMISTRY OUTFITS

These highly attractive and comprehensive Chemistry Outfits enable the young chemist to carry out a very wide variety of interesting and instructive experiments. All sets are complete with a full selection of chemicals and accessories, and a comprehensive instruction booklet. Size No. 1—18/2. Size No. 2—31/-. Size No. 3—(as illustrated above)—45/6. Size No. 4—71/8. Size No. 5—100/-.



# S.E.L.

(Signalling Equipment Ltd.)

Of all good dealers and stores.

Send p.c. for list of other interesting lines.

(Dept. 3), Merit House, Potters Bar, Middlesex

## *Insist* on having one of these exciting books for Christmas The Boys' "Power and Speed" Library

*Intended to keep the mechanically-minded boy completely up to date, each volume of this well-known "Boys' 'Power and Speed' Library" deals with the history and development of a method of modern transport. Expert authors take the reader on the footplate, in the cockpit, on the bridge or at the wheel to explore the whys and wherefores of each particular subject. Make sure one of this Series becomes your favourite Christmas present.*



**MODERN SHIPS  
MODERN RAILWAYS  
MODERN MOTORCYCLES**



**MODERN BRITISH AEROPLANES  
MODERN AIRLINES AND AIRLINERS  
MODERN MOTOR BOATS AND YACHTS  
MODERN BUSES AND COACHES**



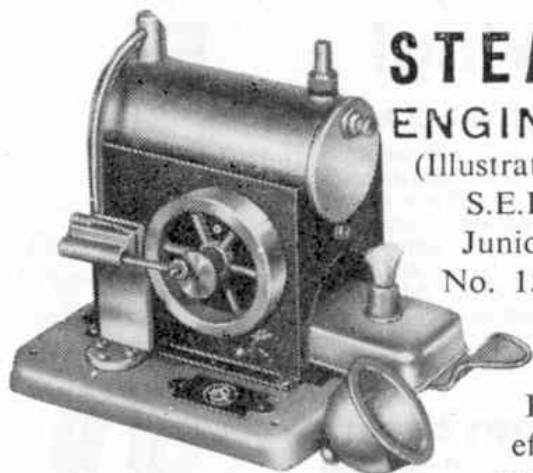
**ENGINES FOR POWER AND SPEED  
MODERN LOCOMOTIVES  
MODERN MOTORCARS**



Each Cr. 4to. Fully illustrated. Price 9s. 6d. net. by post 10s.

Temple Press Limited, Bowling Green Lane, London, E.C.1.

# S.E.L. POWER UNITS



## STEAM ENGINES

(Illustrated).  
S.E.L.  
Junior,  
No. 1530.

Highly efficient and very

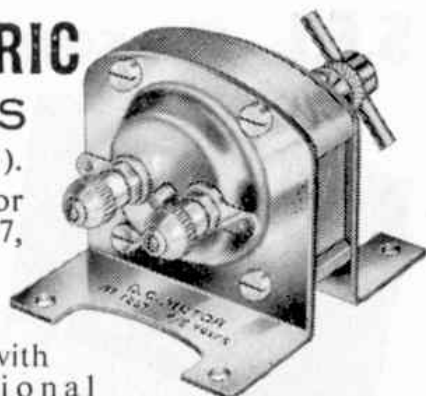
powerful. Mounted on heavy metal base. Seamless brass boiler with water-level plug. Fitted fly-wheel-drive pulley. With burner for methylated spirit, and fuel and water funnel. Price 31/8. See the complete range of S.E.L. Steam Engines.

## ELECTRIC MOTORS

(Illustrated).

S.E.L. Motor  
No. 1267,  
4/6V., d.c.  
For use in  
model

boats and with constructional outfits. High power with low consumption. Adjustable brushes. Price 30/-. Many others available. See the complete range of S.E.L. Electric Motors.



## MODEL WORKING MACHINE TOOLS

Make a model workshop with S.E.L. replicas of modern machine tools. All fitted with drive wheel pulley. Strongly moulded with nickel-plated metal parts. Choose from the following: Power Lathe, Power Press, Circular Saw, Lineshaft, Fan, Grinder, Power Hacksaw, and Driller.

# S.E.L.

(Signalling Equipment Ltd.)

Of all good dealers and stores. Send p.c. for list of other lines.

(Dept. 3), MERIT HOUSE, POTTERS BAR, MIDDX.



56/- EACH

drive. Universal coupling. Ackermann-type steering. Floating rear bogie. Rubber tyres. Powerful Spring Drive. Comes ready assembled.

## SCALE MODEL LORRY

You can Dismantle it—Just like the real thing!

Made up from 65 standardised parts—all replaceable. Shaft

### DYSON 8-TON TRAILER

Attaches to rear of the FODEN LORRY. And dismantles in the same manner.

17/6  
EACH

★ ASK YOUR DEALER TO SHOW YOU THESE WONDERFUL MODELS!  
ABBEY-CORINTHIAN GAMES COMPANY • LONDON S.W.1

Send

# 6 D.

to-day

for your 8-Page Brochure of the Year!

W. J. & H. G. JENNINGS LIMITED  
114/116 Broadway, Bexleyheath, Kent  
Tels. 111 & 7834

SEND NOW FOR ONE OF THESE

## MODEL RAILWAY TUNNELS

'00' GAUGE - 10 ins. long

5/-  
EACH  
Post & Pkg.  
1/3 extra  
or C.O.D.



Strongly Constructed Special Realistic Finish  
Other Sizes:  
'0' Gauge - 10 ins. long. 6/- plus 1/3 post and packing  
'00' " - 7 " " 4/6 " 1/3 " " "  
WILFRID MAHOOD LTD., ORMSKIRK, LANCs.

# POWER CONTROL UNIT A3

This Power Unit provides a perfectly safe and reliable method of obtaining both alternating and direct current supplies of low voltage (12-15 volts) from alternating current mains.

For use on Alternating Current **ONLY**

STANDARD INPUT 210/250 volts, 50/80 cycles 35 watts  
(Special inputs to order)

OUTPUTS (A) D.C. 0-12 volts 10 watts  
(controlled)

(B) D.C. 12 volts 10 watts (fixed)

(C) A.C. 15 volts 15 V.A.

CONTINUOUS RATING



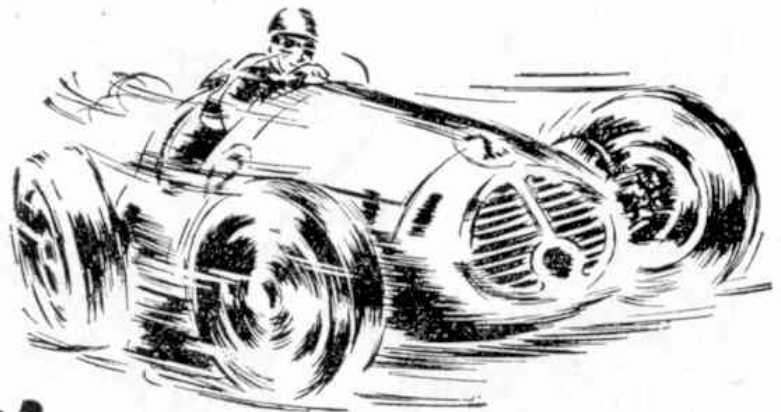
Price

**£4/17/6**

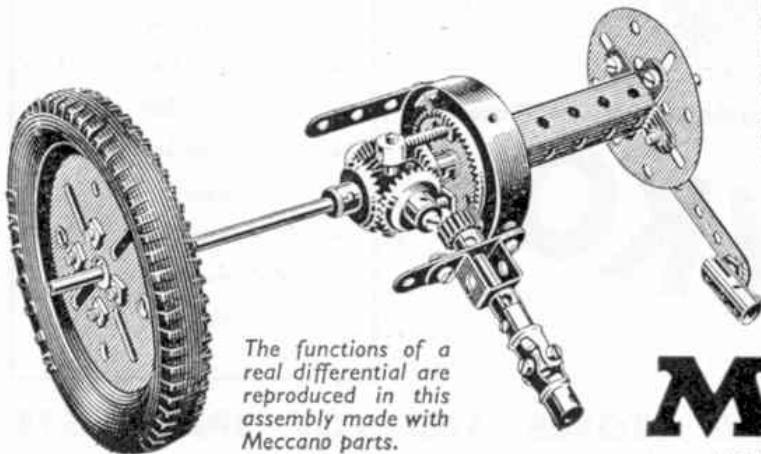
- Strong Aluminium alloy case
- Double-wound transformer
- Full-wave rectifier
- Self-resetting limiter
- Combined polarity-reversing and resistance controller
- Radio interference suppressor

MADE AND GUARANTEED BY MECCANO LIMITED

## What happens when a car turns a corner?



When turning a corner, the inner rear wheel of a car turns more slowly than the outer one which travels faster to negotiate the greater radius of the outer sweep. This difference in wheel speeds is automatic and made possible by a mechanism called a 'differential.' Meccano boys know all about this, because they build models of differentials and many other ingenious mechanisms with Meccano.



The functions of a real differential are reproduced in this assembly made with Meccano parts.

\* Ask any Meccano Dealer for the fine new coloured folder about the Meccano hobby, or write direct to Meccano Ltd.

# MECCANO

MECCANO LTD., BINNS ROAD, LIVERPOOL 13

# Meccano Synchronous Electric Clock

THE Electric Clock shown in Fig. 1 is driven by a synchronous motor, and apart from the wire used for the motor field windings it is made entirely from Meccano parts. The clock operates from a Meccano 20-volt Transformer, and its accurate timekeeping and neat appearance make it an unusually interesting subject.

The framework for the clock mechanism is made by bolting two  $7\frac{1}{2}$ " Strips 1 across a  $5\frac{1}{2}$ " $\times$  $3\frac{1}{4}$ " Flat Plate. Two further  $7\frac{1}{2}$ " Strips are connected to the Strips 1 by  $1\frac{1}{2}$ " $\times$  $\frac{1}{2}$ " Double Angle Strips, and a  $3\frac{1}{2}$ " $\times$  $1\frac{1}{2}$ " Flat Plate 2 is bolted in position. Two  $5\frac{1}{2}$ " Strips 3 are connected to the  $5\frac{1}{2}$ " $\times$  $3\frac{1}{4}$ " Flat Plate by  $1\frac{1}{2}$ " $\times$  $\frac{1}{2}$ " Double Angle Strips, and the ends of the Strips are joined by  $3\frac{1}{2}$ " Strips. A  $3\frac{1}{2}$ " $\times$  $\frac{1}{2}$ " Double Angle Strip 4 is bolted between  $1\frac{1}{2}$ " Angle Girders fixed to the  $5\frac{1}{2}$ " $\times$  $3\frac{1}{4}$ " Flat Plate, and three  $3\frac{1}{2}$ " Strips 5 face-to-face are bolted across the Strips 3. Two  $1\frac{1}{2}$ " Flat Girders 6 are attached to  $1\frac{1}{2}$ " $\times$  $\frac{1}{2}$ " Double Angle Strips fixed between the Strips 3 and the  $5\frac{1}{2}$ " $\times$  $3\frac{1}{4}$ " Flat Plate. Two  $3\frac{1}{2}$ " Strips 7 face-to-face are bolted across the Strips 3.

The rotor consists of two Bush Wheels, each fitted with eight Rod and Strip Connectors arranged radially. It is very important to space the Rod and Strip Connectors accurately, so that the angles between them are exactly the same in each case. The Bush Wheels are fastened on a  $2\frac{1}{2}$ " Rod 8, which is supported in the  $5\frac{1}{2}$ " $\times$  $3\frac{1}{4}$ " Flat Plate and the Flat Plate 2. The bearings for the Rod are strengthened by two  $1\frac{1}{2}$ " Strips bolted to each of the Flat Plates. The inner Bush Wheel is placed

with its boss facing the  $5\frac{1}{2}$ " $\times$  $3\frac{1}{4}$ " Flat Plate, and it is spaced from it by three Washers. The second Bush Wheel is then fixed so that its Rod and Strip Connectors just touch and are exactly parallel to those of the first Bush Wheel.

The reduction gearing to the minute hand has a ratio of 45000:1 and is arranged as follows. A  $\frac{1}{4}$ " Pinion is fixed to the inner end of the Rod 8, and it meshes with a 57-tooth Gear on a 2" Rod

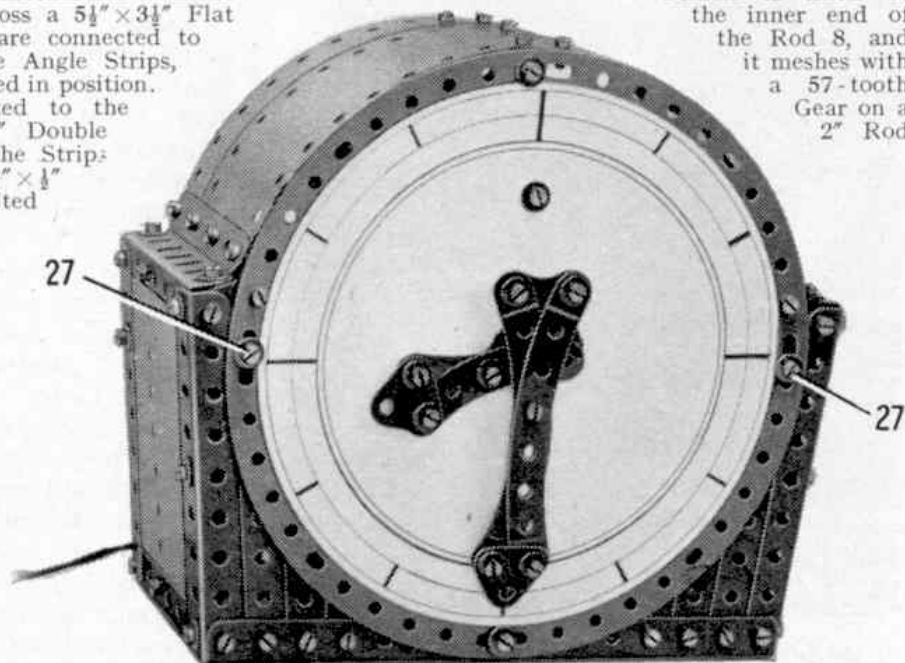


Fig. 1. This fine Electric Clock is operated by an easy-to-make synchronous motor, and is a good subject for the more experienced model-builder.

that carries a  $\frac{1}{4}$ " Pinion 9. This meshes with a 57-tooth Gear on a 4" Rod 10, which is fitted also with a Worm 11. Two  $3\frac{1}{2}$ " Strips bolted across the  $5\frac{1}{2}$ " $\times$  $3\frac{1}{4}$ " Flat Plate strengthen the bearings for the 2" Rod and Rod 10. The Worm engages a 50-tooth Gear on a 4" Rod 12 supported in the Flat Girders 6. The slotted holes of the Flat Girders are used to adjust the mesh of the Worm and the 50-tooth Gear.

Rod 12 carries a Worm 13, and this drives a 50-tooth Gear 14 on a  $1\frac{1}{2}$ " Rod mounted in the  $5\frac{1}{2}$ " $\times$  $3\frac{1}{4}$ " Flat Plate, and in the Strips 5. A  $\frac{1}{4}$ " Pinion is fixed on the  $1\frac{1}{2}$ " Rod, and this engages a 50-tooth Gear 15 that is loosely mounted on a 2" Rod supported in a  $1\frac{1}{2}$ " Flat Girder 16, the Double Angle Strip 4 and the  $5\frac{1}{2}$ " $\times$  $3\frac{1}{4}$ " Flat Plate. A 1" Pulley fitted with a Rubber Ring is pressed against the Gear 15 to provide a light friction drive. This allows the hands to be turned without affecting the drive from the motor. A 1" Gear 17 is fixed on the same Rod as the Gear 15, between the Double Angle Strip 4 and the Flat Plate. The Gear 17 drives a similar Gear on a  $4\frac{1}{2}$ " Rod 18, which carries the minute hand.

The drive to the hour hand is taken from a  $\frac{3}{4}$ " Pinion 19, fixed on the same Rod as the Gear 15. Pinion 19 drives a 50-tooth Gear on a 2" Rod supported in the  $5\frac{1}{2}$ " $\times$  $3\frac{1}{4}$ " Flat Plate and in the Strips 7. The Rod carries also a  $\frac{3}{4}$ " Pinion 20, which is meshed with a 50-tooth Gear 21 on a 2" Rod. A  $\frac{1}{4}$ " Pinion on the same Rod engages a 57-tooth

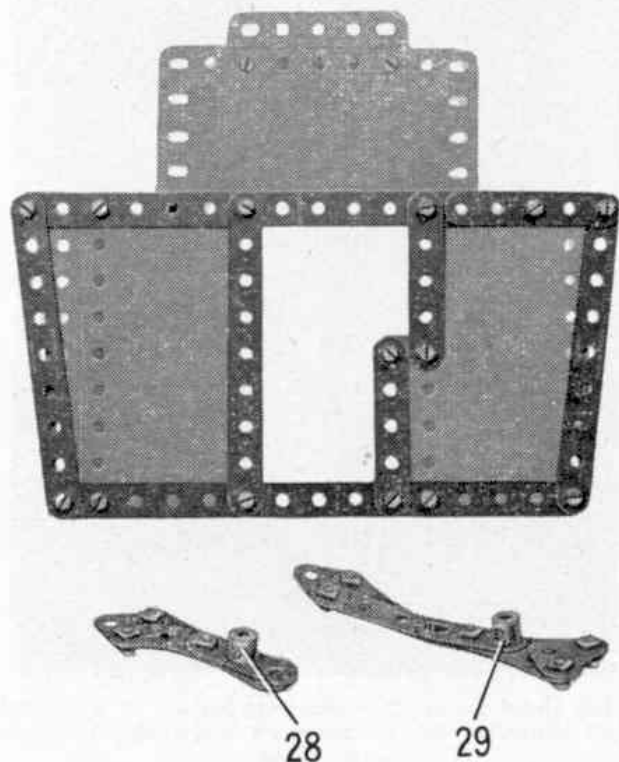


Fig. 2. The removable back of the clock case and the hands are shown clearly in this view.

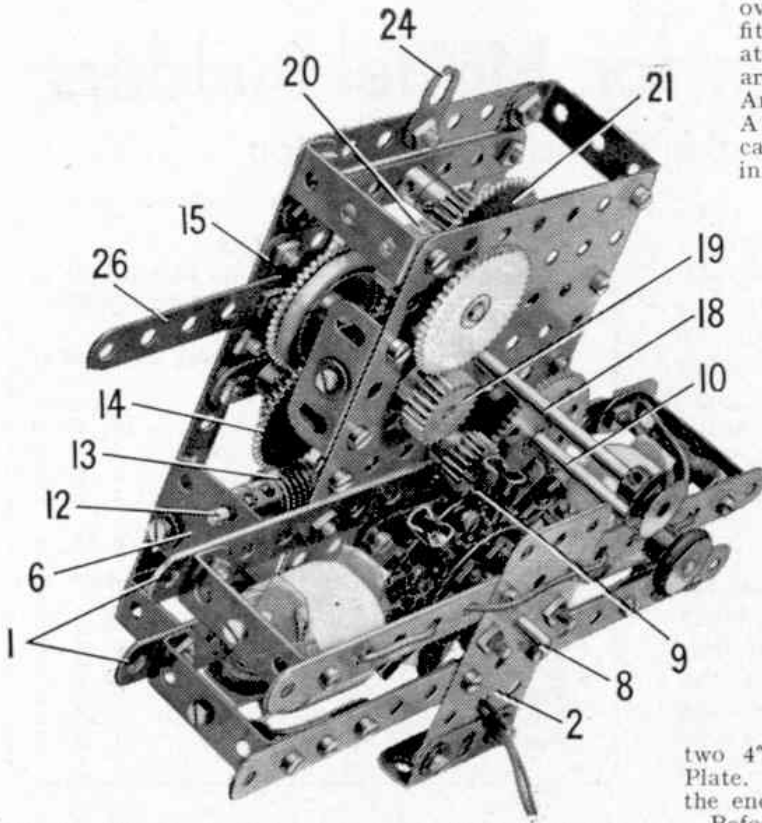


Fig. 3. The clock mechanism removed from its case, showing details of the field coil mountings and the rotor of the synchronous motor.

Gear 22. This Gear is gripped in a Socket Coupling 23 that is free to turn on Rod 18.

The Rods used in the mechanism are held in position by Collars where necessary, and Washers are used to space the Gears and Pinions so that they engage accurately. It is essential to make sure that all the moving parts of the mechanism are perfectly free running.

Each of the two field coils consists of twelve 2" Strips connected by  $\frac{1}{4}$ " Bolts, which serve also to secure two Angle Brackets at one end and two Double Brackets at the other end. The 2" Strips and the Brackets are insulated by a layer of paper. Each coil is wound evenly with approximately 65 yards of 36 S.W.G. Double Cotton Covered Wire. The completed coils are attached by the free lugs of the Double Brackets to the  $1\frac{1}{2}$ " x  $\frac{1}{2}$ " Double Angle Strips bolted between the 7 $\frac{1}{2}$ " Strips, so that their inner ends are as close as possible to the rotor.

The coils are wired in series; that is, the inner end of one coil is connected to the outer end of the other coil. The two remaining ends of the coils are attached to a length of light flex, which is used to connect the clock to a 20-volt Transformer. The joints should be covered with insulating tape.

The base of the clock case consists of two 5 $\frac{1}{2}$ " x 3 $\frac{1}{2}$ " Flat Plates

overlapped seven holes. The Flat Plates are fitted at the front with a 7 $\frac{1}{2}$ " Angle Girder, and at each side with a 3 $\frac{1}{2}$ " Angle Girder. The sides are 4 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ " Flexible Plates, edged by 4 $\frac{1}{2}$ " Angle Girders, 4 $\frac{1}{2}$ " Strips and 3 $\frac{1}{2}$ " Angle Girders. A Circular Strip is attached to the front of the case as shown, and the lower corners are filled in by 2 $\frac{1}{2}$ " and 1 $\frac{1}{2}$ " Strips and 1" Corner Brackets.

The top of the case consists of four 5 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ " Flexible Plates. These are attached to the sides and to the Circular Strip by Angle Brackets. The dial is made from cardboard, and is bolted to a Fishplate 24 and a 2" Strip 25 fixed to the front of the clock mechanism. When the mechanism is inserted in the case the end holes of 2 $\frac{1}{2}$ " Strips 26 are passed over the shanks of  $\frac{1}{2}$ " Bolts 27. These Bolts are passed through the Circular Strip, and each is fitted with four Washers and a nut. Further nuts are tightened on the Bolts when the Strips 26 are in place. The back is fastened in place by bolts screwed into Threaded Bosses attached to the sides of the clock case.

The hour and minute hands are shown separately in Fig. 2. The hour hand consists of two 2 $\frac{1}{2}$ " Curved Strips bolted to a 1" Triangular Plate, and fitted with a Double Arm Crank 28. The boss of this Crank is gripped in the Socket Coupling 23. The minute hand is made by bolting two 4" Stepped Curved Strips to a 1" Triangular Plate. A Crank 29 attached to the hand is fixed on the end of Rod 18.

Before starting the motor a drop or two of good quality light machine oil should be applied to the bearings and to each moving part.

To start the clock the rotor must be spun at almost exactly its normal running speed, which is 750 r.p.m. With practice the speed can be gauged quite accurately, however, and once it is started the clock will run indefinitely and keep excellent time.

A list of the parts required to build this model will be supplied by the Editor on request.

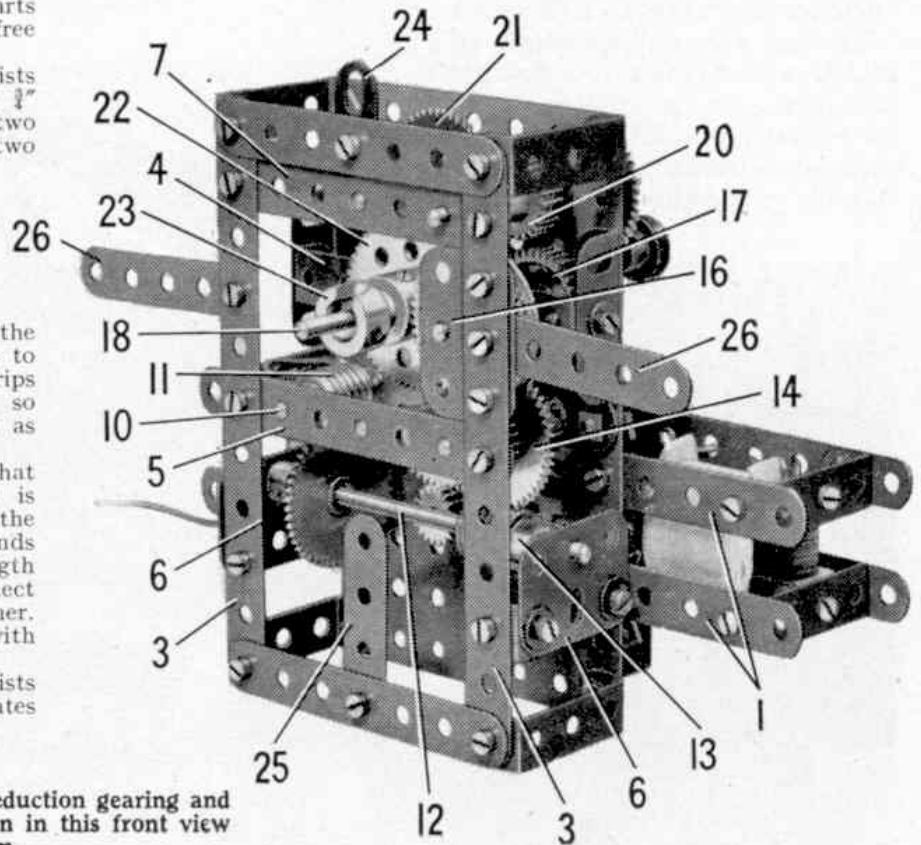


Fig. 4. The arrangement of the reduction gearing and the drive to the hands can be seen in this front view of the mechanism.



# Club and Branch News



## WITH THE SECRETARY

### CHRISTMAS GREETINGS

Again I have the pleasure of wishing a Merry Christmas to all members of the Guild and H.R.C. and to Meccano Clubs and H.R.C. Branches. It has become traditional for the first of the Winter Sessions to be "wound up" with a Christmas party, with plenty to eat, crackers to pull and lots of fun and games. Many Meccano Clubs and Branches extend their Christmas Party invitation to the parents of members, having discovered that pleasure is all the greater for being shared, and that members are always happier when they invite others to join in their fun.

I shall be thinking of members enjoying themselves in this way during the festive season.

### FORTHCOMING BRANCH EXHIBITION

The Mile End (Portsmouth) H.R.C. Branch will hold a Clockwork Railway Exhibition on Wednesday, 15th December, in the Buckland Congregational Church Hall, Kingston Road (corner of Queens Road), Buckland, Portsmouth. The Exhibition will be open from 4.30 p.m. until 9.30 p.m. Admission: Adults, 1/-; Children, 6d. An extensive and very attractive clockwork railway layout will be operated.

### CLUB NOTES

**EXETER M.C.**—Membership continues to increase and there is much enthusiasm at Model-building meetings. Models recently completed have included a goods yard crane, Meccano advertisement sign, tug boat, and a working weighing machine. The Club has acquired a Hornby Railway, and members have been bringing their own equipment to add to it on Train Nights. Club roll: 25. *Secretary:* C. Willis, 23 Hanover Road, Heavitree, Exeter.

**BELGRAVE UNION (LEICESTER) M.C.**—The two-day Exhibition in the Belgrave Union Church rooms was a great success, the fine display of working Meccano models and the extensive model railway layout being outstanding attractions. The Exhibition was highly praised by the many visitors, and by the local newspaper which published both a report and photograph of the event. Club roll: 19. *Secretary:* Mr. C. S. Smith, 18 Doncaster Road, Melton Turn, Leicester.

**STRENSALL (YORK) M.C.**—The highlight of the Club's annual outing this year was a visit to Messrs. Cochranes Steel Works, Middlesbrough, where members were greatly interested in the many processes carried out. During the same day the Middlesbrough Docks Superintendent took the party over the Docks installation. The seniors have been grouped into two Sections named Mechanics and Fitters respectively, and points scored at monthly points contests and fortnightly competitions go towards a House Shield. Club roll: 13. *Secretary:* J. Nurse, 73 Northfields, Strensall, nr. York.

**CONSETT Y.M.C.A. M.C.**—The Consett Y.M.C.A., with which this Club is associated, had a tent of their own at the Consett District Exhibition and Show. An outstanding feature of the display in this tent was a fine range of Meccano models that included one of a 600 b.h.p. mine hauler and a model of a mine conveyor. Both these models were in operation, and proved great attractions. Club roll: 28. *Secretary:* J. Norman Barron, 4 Garden Place, Leadgate, Consett, Co. Durham.

### BRANCH NEWS

**KENTISH TOWN**—New members will be welcomed. The Branch railway has been redesigned and the locomotives overhauled. Model aircraft construction is again becoming popular. Everyone is on the lookout for a new Club room, to enable the Branch to extend. *Secretary:* J. A. Kirby, 9 Busby Place, Kentish Town, London N.W.5.

**HALE END (LONDON)**—At one meeting members were tested on Hornby-Dublo operating, tests being made on accurate stopping, shunting, and smooth coupling of rolling stock. Members who passed the test were then asked to rail certain vehicles in a given time. There is a demand for locomotive "spotting" trips, and a member has been appointed to organise small outings of this kind. *Secretary:* A. L. Coe, 463 Hale End Road, Highams Park, London E.4.

**AVIARY MODEL RAILWAY CLUB (LEEDS)**—An outing to Knaresborough on the new Diesel car unit, in which the parents of some of the members also took part, was greatly enjoyed. The construction of cutout models for the Branch Hornby-Dublo layout is making good progress. Plans are in hand to raise funds for the purchase of additional railway equipment. *Secretary:* L. Blakey, 21 Arley Street, Armley, Leeds 12.

Officials and members of the Bury Grammar School M.C. This very successful Club was affiliated with the Meccano Guild in January 1950, and carries out an attractive programme of Meccano Model-building and Hornby Train operations.



# INDEX

## Vol. XXXIX

### Jan.—Dec., 1954

- Aircraft**:—Auster B3 Pilotless, 277; Boeing 707, 516; Boeing Stratofreighter, 267; Convair XFY-1 V.T.O., 370; Fairey Gannet, 464; Lockheed XFV-1 V.T.O., 370; McDonnell XV-1 Convertiplane, 245; North American types, 134; Short Sherpa, 23
- Air News**, 28, 72, 118, 182, 226, 280, 340, 386, 426, 488, 530, 578
- Aviation**:—Ferryfield, 568; Flying Radar Station, U.S., 218; Night Sortie from West Malling, 58; Operation Becher's Brook, 174; Roe, Story of Sir A. V., 420; Rolls-Royce, Story of, 318; U.S.A.F.'s Trapeze Artists, 16
- Beacon to Lighthouse**, From, 431
- Bending and Levelling Machine**, 532
- Bike to Paris**, I took my, 77
- Blast Furnaces**, Appleby-Frodingham, 520
- Books to Read**, 26, 71, 137, 187, 222, 231, 282, 289, 325, 373, 441, 480, 490, 519, 577
- Boring and Turning Mill**, 42-ft. Vertical, 162
- Bridge**, Vancouver High Level, 270
- Burglar Alarms**, 524
- Canal**, Suez, 527
- Canal Tunnels**, British, 336
- Christmas Pie**, 574
- Christmas Tree Harvest**, 562
- Clock Restored**, Scottish Clock, 164
- Club and Branch News**, 31, 91, 147, 201, 255, 301, 352, 401, 452, 497, 547, 598
- Cocos**, World's Richest Island, 240
- Cotton**, Mississippi, 470
- Crane Weigher**, 200-ton, 317
- Cricket**, English Club, 428
- Cycle Speedway**, 238
- Dam**, Hungry Horse, U.S.A., 54
- Dinky News**, 64, 132, 170, 236, 284, 334, 382, 434, 534, 586
- Fire-Fighting at Sea**, 339
- Fireworks that Save Lives**, 514
- From Our Readers**, 30, 102, 155, 207, 230, 307, 353, 385, 453, 503, 536, 571
- Hornby-Dublo Railways**:—Baseboard Hints, 450; "Building up" the Railway, 298; Crossings, Sidings and Loops, 498; Diamond Crossings, 250; Display Schemes and Scenery, 148; Engineering Features, 40; Layouts, 43, 94, 144, 148, 200, 254, 300, 398, 500, 502, 553; New Items, 196, 250, 548, 599, 602; Signal Cabin and Signalling, 347, 552, 606; Traffic Working, 43, 198
- Hornby Gauge 0 Railways**:—Engine-driving, 42; Engine Duties, 448; Goods Trains, 396; Layouts, 146, 296, 350, 400; Lineside Effects, 604; New Items, 196, 252; Starting and Developing, 96, 298; Track Crossings, 93; Trains in B.R. Colours, 348; Turntable Operations, 447; Wagons, Open, 501, 550
- How Things are Made**:—Ball and Roller Bearings, 377; Dinky Toys, 474, 477; Glassware, Scientific, 168; Meccano Bolts, 220; Nails, Hand-Made, 217; Storage Battery, 322
- Iron Ore from Conakry**, 56
- Iron Ore to Steel Tubes**, 312
- Kitimat, Canada**, Hydro-Electric Scheme, 388
- Liverpool**:—Bus System, 108; Mersey Views, 114
- Life-Boat Tractor**, New, 172
- Meccano International Competition Results**, 86, 142, 192
- Meccano Jones KL 66 Crane Competition**, 544, 592
- Meccano Architectural Models**, 292
- Meccano Girders for Bridge Construction**, 542
- Meccano Models**, New: Bridge, Bascule, 444; Bus, Double deck, 140; Car, Rubber Motor-driven Racing, 248; Car (Sports), 294, 345; Climbing Monkeys, 344; Crane, Luffing, 540; Cranes, Mobile, 194, 494; Destroyer, Naval, 394; Drilling Machine, 194; Dumper Truck, 3-Wheeled, 596; Lorry, Breakdown, 541; Planing Machine, 541; Scooter, 597; Scooter, Motor, 35; Steam Engine and Boiler, 88; Tractor, 445; Wringing Machine, 494
- Meccano Racing Cars**, 34, 248
- Meccano Special Models**:—Loom, 38; Clock; Synchronous Electric, 590
- Model-Builders**, Among the:—Accelerator, Friction Drive, 191; Airscrew, Contra-Rotating, 492; Bearing, Roller, 442; Brake and Gear Selector for Cranes, 32; Change-Speed Mechanism, Automatic, 392; Clutch and Gear-box, 291; Constant Direction Drive, 537; Differential, Novel, 190; Free-Wheel, 190, 393; Fretwork Machine, 492; Friction Clutches, 493; 594; Front-Wheel Drive, 246; Gear-boxes, 32, 291, 537; Gear-cutting Machine, 84; Independent Front Suspension, 343; Intermittent Drive, 139; Lock, Combination, 443; Measuring Instrument, 138; Meccano Parts, New, 538; Pulleys, 247, 593; Quick Return Mechanism, 246; Reversing Mechanism, Automatic, 84; Space Ship, 392; Steering Gear, 190; Variable Ratchet Feed, 342; Winding Drum, Differential, 85; Windmill, 442
- Motor Racing**:—Monte Carlo Rally, 4, 7, 10, 13, 107; Behind the Scenes, 286; Tulip Rally in a Consul, 374
- Natural Gas in Britain**, 467
- Nature**:—Donkey, 328; Kingsley Vale, 223; Orchids, 228; Plants, Desert, 180; Wanganui River, N.Z., 62
- Oil Refinery**, Stanlow, 264
- On the Road**, 66, 120, 224, 278, 332
- Photography**:—Little Owl, 61; Modest Kit, Photography with, 438; Railway, 117, 232, 482
- Puzzles for Beginners**, 583
- Railway Locomotives**:—Loco. without a Chimney, 491; New 2-6-0 and 4-6-2, B.R., 365; New 2-10-0, B.R., 130; Webb Coal Engine Retires, 92
- Railway Notes**, 18, 82, 128, 178, 242, 272, 326, 380, 436, 472, 522, 572
- Railways**:—Breakdown Gang, Job for, 235; Carlisle-Liverpool Footplate Run, 214; Devon Belle, 160; Diesel Trains, B.R. Lightweight, 331; G.N.S. Centenary, 418; Kyle of Lochalsh, 412; Liverpool-Leeds Footplate Run, 125; Liverpool-London Footplate Run, 580; N.E.R. Centenary, 314; Puffing Billy, Australia, 74; Toronto Subway, 462
- Rain to Order**, 68
- Road Tankers for Bulk Flour Delivery**, 244
- St. Lawrence Seaway**, 122
- Ships and Shipping**:—Clyde Diesels, B.R., 212; *Corfu*, Story of the, 512; Destroyers, Daring Class, 424; *Fairtry*, M.T., 565; Ferry Service, N.Z., 274; *Foudroyant*, More about, 167; *Helix*, Shell Tanker, 2; *Sorlandet*, Sailing Ship, 188; Towing a Great Liner, 362, 416; *Vigilant*, Survey Ship, 111
- Signposts**, Pictorial, 566
- Stamp Collectors' Corner**, 45, 99, 151, 203, 257, 303, 355, 403, 455, 505, 555, 609
- Steel—The Mysterious Metal**, 80
- Sundial**, Story of the, 368
- Swing Trains of the Northlands**, 20
- "Taxi, Sir?"**, 184
- Traction Engine**, Pioneer, 384
- Trailer**, New Dyson, 415
- Turbines**, Water, 485
- Volcanic Steam for Industry**, 588

ACCURATE  
HARDHITTING

**Webley**

**AIR PISTOLS**

**AIR RIFLES · ACCESSORIES**

Write for catalogue **WEBLEY & SCOTT Ltd.**

87 WEAMAN ST., BIRMINGHAM 4, ENGLAND



# MECCANO MAGAZINE

Registered at the G.P.O., London, for transmission by  
Canadian Magazine Post.

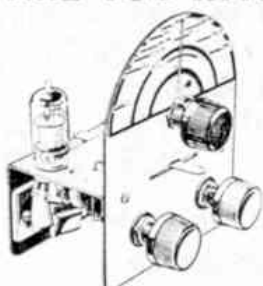
EDITORIAL AND ADVERTISING OFFICES:  
LIVERPOOL 13, ENGLAND.

Telegrams: "Meccano, Liverpool."

**Readers' Sales and Wants.** Private advertisements (i.e., not trade) are charged 1d. per word, minimum 1/-. Cash with order. Readers' advertisements are published as soon as possible; inclusion in the first issue after receiving them cannot be guaranteed.

Advertisements of goods currently manufactured by Meccano Ltd. cannot be accepted.

## ARE YOU INTERESTED IN RADIO?



Then build the amazing D.5.B. One Valve Receiver, ranges the Continent on a 22 volt battery, simple to build with our easy-to-follow diagrams. Highly instructive for the beginner in radio, will work anywhere with a short aerial and earth. Ideal for undisturbed listening, receives Luxembourg, Dutch, French, Italian, German and many other foreign stations.

Full detailed instructions and parts list sent for 1/6, plus 1½d. stamp.

Send to:

**OCEAN RADIO (Dept. M/M)**  
HIGH STREET, LUTTERWORTH, LEICS.

## A MOST USEFUL XMAS GIFT THE "DERMIC" OILER



4/11

POST FREE

Manufactured by us specially for clean and accurate lubrication. If you own a Model Railway or Meccano Set the "DERMIC" will be invaluable. Packed in carton with full instructions.

GET ONE FROM YOUR LOCAL DEALER  
or send direct to:

**S. & B. PRODUCTIONS**  
Portland Rd., S. Norwood, London S.E.25

## READERS' SALES AND WANTS

### SALES

Hornby Gauge 0 Electric Track, four Points, Bassett-Lowke Scale Model P.W. Parts, Hornby 6 volt Locos., Rolling Stock, Signals, Buildings, etc. Send S.A.E. for further details stating requirements. What offers?—J. N. Busbridge, 7 Kingston Close, Abingdon, Berks.

"M.M.s" 1946-7-8-9, complete and in good condition. Also 12 "National Geographic Magazines" from 1932-1946. No reasonable offers refused.—Barnsby, 11 Cromer Road, New Barnet, Herts.

Gauge 0 Electric Railway: American 2-4-2 Engine, Tender, Seven New Wagons, 18 Straights, 22 Curves, Pair of Points, 20V. Transformer-Controller; £3/10/- 2.8 c.c. "Motori Osam" Diesel (Italian), £1/-/-—Baldwin, 233 West Wycombe Road, High Wycombe, Bucks.

0 Gauge Brass Track, 18 in. lengths: Eight Straights, Four Curves (cost 5/-), 2/- each. Three Points, brass, requiring attention, 3/6 each. Two Exley Coaches, 10/- each. Clockwork Loco., 4-4-0, £1/10/- Sell whole or part.—Stein, Conduit Farm, Churchill, Oxon.

Ace Pathscope, 9.5 mm., 200 ft. Film with extra reel (400 ft.). Two pairs Boy's Boxing Gloves. Good condition. Offers—R. Morehouse, 3 Raby Road, Doncaster, Yorks.

"M.M.s" 1944 bound, 1945-1948 inclusive, loose, all excellent condition. Offers—Griffiths, "Whitmere," Station Road, Deganwy, Caernarvonshire.

"M.M.s" as new, 1933, 1937 to 1941, 9/- each year; 1942 to 1949, 6/- each year. Also Kodak Magazines, as new, 1933 to 1938, 6/- each year; January/September 1939, 4/6. S.A.E.—Mills, 115 Lord Street, Kearsley, Lancs.

"M.M.s" May 1949 to August 1954 (July 1949 and June 1950 missing). Offers to—P. Hartley, 4 Albert Street, Thornton, Bradford.

### WANTS

Overseas reader wishes to purchase Hornby Electric Locomotive; E420 Eton, E320 or E220 series. Good condition essential.—Box M.M. No. 88.

All types of Dinky Toy and Tootsietoy Road vehicles any condition, 1934 issues onwards. One time fanatic, collection lost during war, now resuming as a serious collector. Single models or collections considered. Send details and price required to—G.P. Holding, 30 Huddleston Road, London N.W.2.

Any obsolete Dinky Toys. Must be unbroken. State kind and price.—Arnold, Kirk View, Holmesfield, Sheffield.

Will exchange Super Model Leaflets Nos. 7, 8, 9, 11, 15, 20, 21, 26, 30 and 34 (new, several available), or pay cash for any early Meccano literature, Manuals, Parts, Steam Engine, Electrical Manual and Parts, or American "M.M.s"; good condition not essential; all replies answered airmail.—B. Baxter, 103 Morningside Road, Whangarei, New Zealand.

## The NEW ERG CATALOGUE

This splendid volume packed full of vital information for all who are interested in 00 railway modelling and containing many items suitable for use with Hornby-Dublo railways is now ready. **Price 1s. 6d.** (post 3d.)

SEND FOR YOUR COPY TODAY!

**ERG (Bournemouth) LTD**

529 Roumelia Lane, Boscombe, Bournemouth



# A Hornby-Dublo electric railway can be yours for a modest outlay

... operated through the new Hornby-Dublo Battery Control Unit.



EXAMPLE

EDG17 Tank Goods Set ... £4 . 18 . 6

Battery Control Unit ... 1 . 10 . 0

£6 . 8 . 6

Plus 3 dry batteries—Ever Ready 126  
or Drydex H30

7 . 6

(For prices of other Sets see the Hornby-Dublo Catalogue)

MADE AND GUARANTEED BY MECCANO LTD.